Generic Units in the Heteropoda

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This is the third in a series of three papers written as advance treatments for gastropod groups I am revising for the Treatise on Invertebrate Paleontology. These advance synopses have served to validate certain new names and type designations, to provide an opportunity for references to be given, and to enable other workers to criticize the revisions before their final publication in the Treatise.

The Heteropoda have been a particularly difficult group to review. Some of the literature has been hard or impossible to obtain. As well, this superfamily was not as completely covered by Thiele (1929) or by Wenz (1941) as were some of the other gastropod groups, and much time had to be spent in canvassing for generic names that pertain to the Atlantacea. The Heteropoda is a difficult group to study, as some of the forms seem to lack diagnostic characters; early authors often provided more confusion than they did enlightenment. Fortunately, Tesch (1949) has published a good review of the species which facilitated the present task, but he did not review the genera nor indicate their type species.

It is my intention here to assemble in compact form the data concerning the generic and familial units and to interpret the type species following the synonymies of Tesch (1949).

I have omitted mention of some genera that have been incorrectly assigned to this group from time to time, such as two genera apparently not mollusks at all (*Timoriena* and *Monophora* of Quoy & Gaimard) and various names that apply rather to larval prosobranchs, to pteropods, or to Paleozoic archaeogastropods.

CONVENTIONS AND ABBREVIATIONS

The conventions and abbreviations used here are, for the most part, those used in the Treatise on Invertebrate Paleontology.

The name of the type species is set off by an asterisk and square brackets ([*]); the form of type designation is then indicated by the abbreviations listed below.

The work where the associated taxon was named or subsequent designation made is indicated by a date and by a letter (if present). The numbers following such dates refer to the pages or plates in the work where the name or designation first appears. These works are listed in the bibliography in all cases.

If the name of the author of a species is not given, it is to be assumed that the species was first described by the author of the associated genus and in the same work. The type species are listed first as they were designated — originally or subsequently — with the exception that abbreviations are filled out and the names of the authors of the species have been added where they were lacking. This entry is often followed by the original combination of the species and by earlier synonyms.

Abbreviations are as follows:

(?) (before a generic name) - position questioned

= - synonym auctt. (auctores) - of authors

err. (error) - error ex - from

in synon.

- a generic name proposed in the synonymy of another

M - type fixed by monotypy
MS - the manuscript of

nom. correct.

(nomen correctum)

- a name with an intentionally altered spelling of the sort allowed under the IC

ZN rules

nom. nud.

(nomen nudum)

- a name which, as originally published, fails to meet the requirements of the ICZN rules, and has no status in

nom. nov. (nomen novum) - a new name nom. null. (nomen nullum) - spelling error

nom. transl.

- a name derived by valid emendation of a previously published name as the re-

cult of transfer from one

	suit of transfer from one
	taxonomic category to an-
	other within the "family-
	level"
nom. van. (nomen vanum)	- an invalid emendation,
	having no status in nomen-
	clature
non	- not of
pro	- for
OD	- type fixed by original de-
	signation
SD	- type fixed by subsequent
	designation

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Superfamily

nom. transl. Philippi, 1853: 282 & 284, ex Atlantidae

— Carinariacea Reeve, 1842: 74,
nom. correct. Troschel, 1856: 42, ex Carinariana

— Pterotracheacea Gray, 1840: 148,
nom. transl. Keferstein, 1863: 850, ex Pterotracheidae

ATLANTACEA WIEGMANN & RUTHE, 1832:

Family Atlantidae Wiegmann & Ruthe, 1832: 518, ex Rang, 1829: 123 (vernacular)

= Firolacea Wiegmann & Ruthe, 1832: 518,

nom. transl. Troschel, 1856: 43, ex Firolidae

Atlanta Lesueur, 1817 c: 390 [*A. peronii; SD Gray, 1847: 149, no. 175]

- = Allanta D'Orbigny, 1834: pl. 12 (nom. null.)
- = Atalanta Knocker, 1869: 619 (nom. null.)
- = Atlantis (Anon.), 1819: col. 41 (nom. null.) = Atlants Carpenter, 1861: 241 (nom. null.)
- = Atlantidea Pilsbry, 1922: 314 [*Atlanta rotundata Gabb, 1873: 201; SD Woodring, 1928: 133]
- = Steira Eschscholtz, 1825: col. 735 [*S. lamanoni;
- Bellerophina D'Orbigny, 1843 a: 466 & 1843 b: 410 & plt. 236 [*B. vibrayei; M]
 - = Bellerophorina Gray, 1847: 164, no. 338 (nom. null.)
- Eoatlanta Cossmann, 1889: 297 & 380 [*Cyclostoma spiruloides Lamarck, 1804: 114; OD]
- Oxygyrus Benson, 1835: 173 [*O. inflatus; M (= Atlanta keraudrenii Lesueur, 1817 c: 391)]
 - = Oxygurus Simroth, 1907: 1044 (nom. null.)
 - = Helicophlegma d'Orbigny, 1835: 139 & 168 [*Atlanta keraudrenii Lesueur, 1817 c; M]
 - = Helicoplegma Gray, 1840: 147 (nom. null.)
 - = Ladas Cantraine, 1841: 37 [*L. keraudrenii (Lesueur) (= Atlanta keraudrenii Lesueur, 1817 c); M]
- Protatlanta Tesch, 1908: 3 & 8 [*Atlanta lamanonii Sou-LEYET, 1852: 371, non Atlanta lamanoni (Eschscholtz, 1825: col. 735) (= Atlanta souleyeti SMITH, 1888: 43 [nom. nov.]); OD]
 - = Protoatlanta Wenz, 1941: 1015 (nom. null.)
- Family Carinaridae Reeve, 1842: 74, nom. correct. Troschel, 1856: 42 (as Carinariacea), ex Carinariana, nom. transl. Tryon, 1883: 7 & 349, ex Carinari-
- Carinaria Lamarck, 1801: 98 [*C. vitrea (GMELIN) (= Argonauta vitreus GMELIN, 1791: 3368, no. 317-2; = Patella cristata LINNAEUS, 1767: 1260, no. 768); M]
 - = Carinaire, auctt. (nom. null.)
 - = Carinaires, auctt. (nom. null.)
 - = Carinarius Montfort, 1810: 2 (nom. van.)
 - = (?) Campylonaus Benson, 1835: 176 (nom. nud.) (non Gray, 1847: 149, no. 179 [Pteropoda])
 - = Tithyonia Tiberi, 1880: 46, ex Cavolini MS (in synon.)
- Cardiapoda d'Orbigny, 1835: 139 & 154 [*C. pedunculata; SD Gray, 1847: 164, no. 334 (= Pterotrachea placenta Lesson, 1830: 253)]

- = Cardiapus d'Orbigny, 1842: 19 & 1846: 722 [Index] (nom. null.)
- = Cardiophora "D'Orbigny" Scudder, 1882: 60 (nom. null.)
- = Cardiopoda Agassiz, 1846: 65 (nom. van.)
- = Carinairoida Souleyet, 1852: 351 [*C. placenta (Lesson) (= Pterotrachea placenta Lesson, 1830); SD herein (first on list of two)]
 - = Carinaroida Smith, 1888: 25 (nom. null.)
 - = Carinaroides Deshayes, 1853: 61 (nom. null.)

Pterosoma Lesson, 1827 a: 414 & 1827 b: 282 [*P. plana; M] (see Crosse [1897])

= Aloysia Issel, 1907: 174 [*A. phyllosoma; M (= Pterosoma plana Lesson, 1827 a & 1827 b)]

Family Pterotracheidae Gray, 1840: 148

= Firolidae Wiegmann & Ruthe, 1832: 518, ex Rang, 1829: 120 (vernacular)

Pterotrachea Forskål, 1775: 117 [*P. coronata; SD Gray, 1847: 163, no. 332]

- = Pterotrachaea Cuvier, 1817: 31 (nom. null.)
- = Pterotrachia Norman, 1888: 8, lines 183-184 (nom. null.)
- = Anops d'Orbigny, 1835: 139 & 149 (non Bell, 1833: 99) [*Firola peronii d'Orbigny, 1834: pl.10, non Pterotrachea peronii Lamarck, 1816: 13; М]
- = Eupterotrachea Bonnevie, 1920: 11 [*E. hippocampus (Рыціры) (= "Pterotrachaea" hippocampus Рыціры, 1836: 242); SD herein (first on list of three)]
- = Euryops Tesch, 1906: 83 & 88 (non Cope, 1884: 33) [*Pterotrachea (E.) mutabilis; SD herein (first on list of three) (= "Pterotrachaea" hippocampus Philippi, 1836)]

=Euryopsis Bonnevie, 1920: 8 (nom. null.)

- = Firola Bruguière, 1791: pl. 88 (genus without species) Original list provided by Lesueur, 1817a: 6-7. [* F. mutica Lesueur, 1817a: 6; SD herein (first on list of six)]
 - = Firole, auctt. (nom. null.)
- = Heterodens Bonnevie, 1920: 10 [*H. gegenbauri (Vayssière) (= Firola gegenbauri Vayssière, 1904: 39); M (= Pterotrachea scutata Gegenbaur, 1855: 185)]
- = Hypterus Rafinesque, 1814: 29 [*H. erythrogaster; SD herein (second on list of two) (= Pterotrachea coronata Forskål, 1775: 117)]
 - = Hyptere Gray, 1847: 163, no. 332 (nom. null.)
- = Hypopterus Philippi, 1853: 284 (nom. van.) = Pterophora Chiaje, 1825: 197, ex Caulini (= Cavolini) MS (in synon.)

Firoloida Lesueur, 1817 b: 37 [*"Firoloide desmarestiana"; SD Gray, 1847: 163, no. 332 (= F. demarestia Lesueur, 1817 b)]

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- = Firaloida BINNEY, 1863: 558 (nom. null.)
- = Firoloide Gray, 1847: 163, no. 332 (nom. null.)
- = Firoloidea Adams & Adams, 1853: 95 (nom. null.)
- = Firoloides Deshayes, 1830: 130 (nom. null.)
- = Cerophora D'Orbigny, 1835: 139 & 151 [*C. lesueurii (D'Orbigny) (= Firola lesueurii D'Orbigny, 1834: pl. 10); SD Gray, 1847: 164, no. 333 (= Firoloida demarestia Lesueur, 1817b)] = Cerotophora Gistel 1848: viii (non Gray

= Ceratophora Gistel, 1848: viii (non Gray, [1833 - 1835]: pl. 68) (nom. null.)

- = Ceropleura Cossmann, 1895: 133 (nom. null.)
- = Averna Gistel, 1848: viii (nom. van.)
- = Demarestia GRIFFITH & PIDGEON, 1834: 51 (nom. nud., err. pro Firoloida demarestia LESUEUR, 1817b)
- r=Firolella Troschel, 1855: 300, 305, & 311 [*F. gracilis; SD herein (first on list of two) (=Firo-=loida demarestia Lesueur, 1817b)]

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